Contribution ID: **61** Type: **Oral presentation**

Localized and analytic braneworld black-hole solutions

In the context of a five-dimensional braneworld model with a warped extra dimension, we construct novel localized, analytic black-hole solutions. The geometry of the bulk spacetime possesses a higher-dimensional spherical symmetry, while on the brane the geometry is of a Schwarzschild-like form. The singularity of these solutions occupies a single point in the higher-dimensional space, which is located on the 3-brane. In addition, the horizon of these black holes shrinks exponentially as we move away from the brane. No exotic matter is necessary in order to solve the gravitational field equations in the bulk. All these characteristics make these solutions good candidates for solving the black-hole localization problem in braneworld models.

Primary author: Mr NAKAS, Theodoros (University of Ioannina)

Co-author: Prof. KANTI, Panagiota (University of Ioannina)

Presenter: Mr NAKAS, Theodoros (University of Ioannina)